Comment on the
2012 Connecticut Comprehensive Energy Strategy
Draft for Public Comment

by Henry E. Auer, Ph. D.

Hon. Governor Malloy and Commissioner Esty:

I am following up on a Comment I submitted November 20, 2012, in which I suggested installing solar panel farms along high transmission line rights of way in Connecticut.

It is recommended to revise the Draft by eliminating the proposal to expand natural gas pipelines, which is estimated to cost $3.8 billion. In place of this newly-identified demand for energy, it is suggested to consider installing solar farms along the rights of way of Connecticut's high voltage transmission lines.

Industrial scale solar farms are already operating or under construction in the U. S. For example, First Solar, Inc. installed a 58 MW(AC) solar farm over 468 acres (0.73 sq. mi.; 0.12 MW per acre) in Boulder City, NV ; a 21 MW(AC) solar farm on 200 acres (0.31 sq,. mi.; 0.11 MW per acre) in Blythe, CA ; or a 290 MW(AC) solar farm on 2,400 acres (3.75 sq. mi.; 0.12 MW per acre) in Yuma County, AZ.

Together, these three projects are expected to eliminate the emission of 267,000 metric tons of carbon dioxide per year, and provide power for an estimated 126,000 homes. They provide a large number of jobs during construction, and a smaller number of jobs during operation and maintenance.

The Draft Report states there are 1,800 miles of high-voltage transmission lines in the state. This gives between 33 and 65 sq. mi. of right of way, assuming a width of 100 to 200 feet. Let us assume that about 2/3 of this area is available for installation of photovoltaic panels, and that conservatively solar farms in Connecticut are ½ as efficient as in California. Using the MW per acre value above, this conservative estimate provides that potentially 850 to 1,700 MW(AC) of solar capacity could be installed along Connecticut's rights of way.

The Draft Report promotes installation of distributed solar panels by small businesses and residences. This indicates that the Report has already considered potential negative factors operative in Connecticut that are not significant in the American Southwest, such as a higher latitude, more cloudy days, and even some days when panels might be snow-covered. The same considerations that have led to promoting installation of distributed solar power capability apply for industrial-scale solar farms along transmission lines. Furthermore, siting and environmental impact considerations presumably have already been dealt with at the time of permitting of the transmission lines. The rights of way are already clear-cut, having only low level vegetation growing back. The First Solar farms deliver high voltage AC current; solar farms along the transmission line rights of way could feed directly into the lines themselves.

It is concluded that right of way solar photovoltaic projects should be actively pursued under the 2012 Connecticut Comprehensive Energy Strategy.

Respectfully submitted,

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